

Compliance with 47 CFR 15.247(i)

“Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.”

The EUT is an 802.11 radio operating in the 2400 –2483.5 MHz band as a 15.247 spread spectrum transmitter. The EUT will only be used with a separation distance of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091(b).

Since the transmit frequency is greater than 1.5 GHz, and the output power is less than 3.0 W ERP, the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as 1 mW/cm². The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$$S = (PG)/4\pi R^2$$

Where: S = power density (mW/cm²)

P = power input to the antenna (mW)

G = numeric power gain relative to an isotropic radiator

R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)

PG = EIRP

Solving for S, the maximum power density 20 cm from the transmitting antenna is summarized in the following table:

Antenna Type	Antenna manufacturer	Antenna Part No	Transmit Frequency (MHz)	Max conducted O/P Power (mW)	Antenna Gain (dBi)	Minimum Cable loss (dB)	Power Density @ 20cm	General Population Exposure Limit (mW/cm ²)
Printed dipole	Radial/Larsen	R380.500.311	2.4 – 2.5GHz	100	2	0	0.032	1

The power density does not exceed 1 mW/cm² at 20 cm; therefore, the exposure condition is compliant with FCC rules.